SAFETY DATA SHEET

Regulation 1907/2006/EC

ZF Aftermarket

Trade name: ZF-Lifeguard Fluid AG+

1. Identification of the substance/mixture and of the company/undertaking

1.1 Product identifier

Trade name:	ZF-Lifeguard Fluid AG+
	5961.308.712
Product code:	5961.308.713
	5961.308.817

1.2 Relevant identified uses of the substance or mixture and uses advised against

Use of the Substance/Mixture:	Transmission oil
Uses advised against:	No uses advised against identified.

1.3 Details of the supplier of the safety data sheet

Company:	ZF Asia Pacific Pte. Ltd.
Address:	11 Tuas Drive 1, Singapore 638678
Telephone:	+65 6424 8787
Fax:	+65 6424 8786
Contact Person:	Product Management Department
Email:	pm.zfservices.ap@zf.com

2. Hazards identification

2.1 GHS Classification of the substance or mixture

According to Globally Harmonized System of Classification and Labelling of Chemicals (GHS) 3rd Revised Edition

Product: Mixture

Physical Hazards	Not classified
Health Hazards	Not classified
Environmental Hazards	Not classified

Additional information: **None**

2.2 Label Elements

Labelling according to GHS 3rd Revised Edition

Hazard Pictogram	Not applicable
Signal word	Not applicable
Hazard statements	Not applicable
Precautionary statements	Not applicable

2.3 Other hazards:

None known

3. Composition/information on ingredients

Mixtures of base oil and additives

General information: Mixture containing severely refined base oils and additives.

Chemical identity	CAS Number	Concentration (% weight)	Ingredients hazard code
Alkoxylated long-chain alkyl amine	Confidential business information	< 0.5	H317

* Remaining ingredients which within the current knowledge of the supplier are not classified as hazardous to health or the environment, or below the applicable cut-off concentration, and hence do not require disclosure in this section as according to GHS.

4. First aid measures

4.1 Description of first aid measures

General advice:

Treat according to symptoms.

Skin contact:

Rinse with soap and plenty of water and remove contaminated clothing and shoes. Get medical treatment if symptoms prolong.

Inhalation:

Remove to fresh air. No specific first aid measures are required.

Eye contact:

Rinse immediately with running water, also under the eyelids for 15 minutes. Check for and remove any contact lenses. See a medical doctor or ophthalmologist for treatment.

Ingestion:

Wash out mouth with water. Remove dentures if any. Drink glasses of water or milk to dilute. If any symptoms appear get medical treatment. Do not induce vomiting.

Protection of first-aiders:

Wear personal protective equipment.

4.2 Most important symptoms and effects, both acute and delayed:

No effect expected.

4.3 Indication of any immediate medical attention and special treatment needed

Treat symptomatically.

5. Firefighting measures

5.1

Extinguishing media Alcohol resistant foam. Water fog. Carbon dioxide (CO2). Dry

Suitable extinguishing media: chemical powder, sand or earth may be used for small fires.

Unsuitable extinguishing media: Do not use water jet.

5.2	**Special hazards arising from the substance or mixture:**	In case of fire hazardous decomposition products may be produced such carbon monoxide, carbon dioxide, other pyrolysis products typical of burning organic material and lithium hydroxide dust.
5.3	**Special protective equipment for fire-fighters:**	Promptly isolate the scene by removing all persons from the vicinity. Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode.

6. Accidental release measures

6.1	**Personal precautions, protective equipment and emergency procedures:**	Avoid contact with skin, eyes and clothing. Put on appropriate personal protective equipment. Do not touch or walk through spilled material because it is slippery.
6.2	**Environmental Precautions:**	Avoid dispersal of spilt material and runoff and contact with soil, waterways, drains and sewers. Collect spillage. Report spills to local authorities as appropriate or required.
6.3	**Methods and material for containment and cleaning up:**	Stop leak if without risk. Spills can be reused or recycled if possible. Absorb spills in special absorbents or inert materials such as diatomite or vermiculite and collect in suitable container for disposal. Dispose of as special waste in compliance with local and national regulations. Prevent further leakage or spillage if safe to do so.

7. Handling and storage:

7.1	**Precautions for safe handling:**	Do not get in eyes, on skin, or on clothing. Use and handle in well ventilated areas. Use personal protective equipment as required. Keep away from heat and ignition sources. Handle in accordance with good industrial hygiene and safety practise. Keep in the original container or an approved alternative made from a compatible material, kept tightly closed when not in use. Empty containers retain product residue and can be hazardous. Do not reuse container. Empty containers should be completely drained, properly closed, and disposed of properly. Do not store in unlabelled containers. Use appropriate containment to avoid environmental contamination.
7.2	**Conditions for safe storage, including any incompatibilities:**	Store under cover away from moisture and sources of ignition. Do not overheat in storage. Keep container tightly sealed.

8. Exposure controls/personal protection

8.1 Control Parameters

National occupational exposure limits / Biological occupational exposure limits

Components	TWA
None	None

Recommended monitoring procedures

Not required under sufficient ventilation.

8.2 Appropriate engineering controls: General ventilation should be designed to prevent accumulation and recirculation in the workplace.

8.3 Individual protection measures, personal protective equipment

Handle in accordance with good industrial hygiene and safety practise.

Respiratory protection:	In case of insufficient ventilation, wear suitable respiratory equipment.
Eye/face protection:	Wear safety glasses with side shields, goggles or face shield.
Protective clothing:	Wear suitable protective clothing and chemical resistant gloves which includes nitrile rubber gloves, Viton, etc.
Ventilation:	Provide adequate ventilation when processing material at elevated temperatures.

9. Physical and chemical properties

9.1 Information on basic physical and chemical properties

Appearance	liquid
Color:	Red
Odor	Characteristic
Odor Threshold:	No data available
pH:	Not applicable
Freezing point:	No data available
Boiling Point:	No data available
Flash point, COC (°C):	228 °C
Evaporation Rate:	No data available
Flammability (solid, gas):	No data available
Flammability Limit - Upper (%)–:	Not applicable
Flammability Limit - Lower (%)–:	Not applicable
Vapor pressure:	No data available
Vapor density (air=1):	No data available
Density (g/cm3):	0.8351 @ 30°C
Solubility:	Not soluble in water

Partition coefficient (n-octanol/water):	No data available
Autoignition Temperature:	No data available
Decomposition Temperature:	No data available
Viscosity, kinematic (mm2/s):	34.77 @ 40°C

10. Stability and reactivity

10.1	**Reactivity:**	May react with oxidizing agents.
10.2	**Chemical Stability:**	Stable under recommended storage conditions.
10.3	**Possibility of hazardous reactions:**	Under normal conditions of storage and use, hazardous reactions will not occur.
10.4	**Conditions to avoid:**	Acids
10.5	**Incompatible Materials:**	Oxidizing agents.
10.6	**Hazardous Decomposition Products:**	Incomplete combustion will generate smoke, toxic fume, carbon dioxide and hazardous gases, including carbon monoxide and sulfur oxides.

11. Information on toxicological effects

11.1 Information on the likely routes of exposure

11.2 Symptoms related to physical, chemical and toxicological characteristics

Skin contact	No effect expected.
Eye contact	Discomfort.
Inhalation	No effect expected.
Ingestion	Mild discomfort.
Carcinogenic effects	Based on available data, the classification criteria are not met.
Mutagenic effects	Based on available data, the classification criteria are not met.
Reproductive toxicity	Based on available data, the classification criteria are not met.
STOT - single exposure	Based on available data, the classification criteria are not met.
STOT - repeated exposure	Based on available data, the classification criteria are not met.
Aspiration hazard	Based on available data, the classification criteria are not met.

11.3 Delayed and immediate effects and also chronic effects from short- and long-term exposure

No effect expected.

11.4 Numerical measures of toxicity

Components	LD50/oral/rat	LC50/inhalation/rat	LD50/dermal/rabbit
Base oil	>5,000 mg/kg	No data	>2,000 mg/kg

12. Ecological information

12.1 Eco-Toxicity (aquatic and terrestrial)

Components	Type	Freshwater Fish Species	Test Method
Base oil	96 hr LL_{50}	>100 mg/l	-

Components	Type	Crustacea	Test Method
Base oil	96 hr EL_{50}	>10,000 mg/l	-

Components	Type	Algae	Test Method
Base oil	Acute NOEL 72 hr	>100 mg/l	-

12.2 Persistence and degradability

Expected to be readily biodegradable but the product contains components that may persist in the environment.

12.3 Bioaccumulative potential

Product is not likely to accumulate in biological organisms.

12.4 Mobility in soil:

The product will absorb to the soil particles and will not be mobile.

12.5 Other adverse effects:

Films formed on water may affect oxygen transfer and damage organisms.

13. Disposal considerations

13.1 Waste treatment methods

Waste from residues / unused products:	Reuse or recycle whenever possible. If not, dispose of in accordance with hazardous waste management regulations of the country of use.
Contaminated packaging:	Empty containers should be taken for local recycling, recovery or waste disposal in accordance with hazardous waste management regulations of the country of use.
Relevant regulation:	Hazardous waste management regulations of the country of use.

14. Transport information

14.1 UN Number:	Not regulated
14.2 UN Proper Shipping Name:	Not regulated
14.3 Transport Hazard Class	Not regulated
14.4 Packing Group:	Not regulated
14.4.1 Further information for transport	
IMDG	Not regulated
ADR/RID	Not regulated
ICAO/IATA	Not regulated

14.5 Environmental hazards:	None
14.6 Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code:	Not evaluated.
14.7. Special precautions for user	None required.

15. Regulatory information

15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture:

This product is not considered as hazardous according to the classification criteria of the Globally Harmonized System of Classification and Labelling of Chemicals (GHS) 3rd Revised Edition.

Further Information:

This SDS is prepared for the purpose of providing safety information for transportation and occupational handling conditions.

16. Other information

This safety data sheet has been prepared according to following regulations:

Local regulations adopting Globally Harmonized System of Classification and Labelling of Chemicals (GHS) 3rd Revised Edition.

Hazard statements:	None
Revision Information:	Vertical lines in the margin indicate an amendment.
Revision Date:	09.01.2023
Disclaimer:	This information is based on our current knowledge and is intended to describe the product for the purposes of health, safety and environmental requirements only. It should not therefore be construed as guaranteeing any specific property of the product.